Environmental Restoration Contractor **ERC Team**

Meeting Minutes Cover Sheet

093887

Please find attached the Open Meeting Minutes from the Groundwater/Vadose Zone Integration Project of October 1, 2001.

If you have any comments or changes to these minutes, please reply to this email and your comments will be incorporated into the next meeting minutes.

Environmental Restoration Contractor **ERC Team**

Meeting Minutes

093887

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SUBJECT **GROUNDWATER/VADOSE ZONE INTEGRATION PROJECT MEETING - OCTOBER 1, 2001**

TO Distribution

FROM Michael J. Graham, Groundwater/Vadose Zone Integration Project Manager

DATE October 29, 2001

ATTENDEES
See Attached List

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Attendees
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NEXT GW/VZ INTEGRATION PROJECT OPEN MEETING:

Next Meeting: Monday, December 3, 2001 – 1-3 p.m.
Location: Bechtel Hanford, Inc., Assembly Room (Badging Required)
Local Call-In Number: (509) 376-7411
Toll Free Call-In Number: (800) 664-0771

MEETING MINUTES:

A Groundwater/Vadose Zone (GW/VZ) Integration Project Open Meeting was held on October 1, 2001, in Richland, Washington, in the Assembly Room at the Bechtel Hanford, Inc. (BHI) Building.

PROJECT REPORT:

Integration Project Expert Panel (IPEP) Update (Michael Graham)

I would like to open it up for discussion of your impressions and general insights on the IPEP meeting.

QUESTION: Did you get any informal feedback?

ANSWER: No.

COMMENT: I thought the presentation was pretty well received. I'd say this was the most optimistic and supportive IPEP meeting I have seen.

The panel gave a strong endorsement of the project overall.

QUESTION: Going back to the time of the first meeting, would you say more of a negative attitude could be detected at the first meeting?

ANSWER: It was obvious that the tenor and tone has changed a lot. It's bounced around a little bit. I think Dr. Berkey's had a lot to do with getting the members of the expert panel to act as a team. They go with

their observations and make specific recommendations as opposed to broad recommendations. Dr. Berkey's had a strong influence.

One reason for that change is education. Over time, the panel members have come to understand where the project is going.

QUESTION: Will you share with us what the Environmental Protection Agency (EPA) had to say at the conclusion?

ANSWER: They still framed their outlook as cautiously optimistic. They thought we were focusing on the right things. This is the strongest support to date that they have given.

COMMENT: EPA seems to want a focus on compliance and was asking why you focus on other things. It seems there was a reflection of Doug Sherwood's attitude.

System Assessment Capability (SAC) Update (Bob Bryce)

Today I want to talk about our plans for where we are going as we did in the IPEP meeting. We want to fix a few things before we put the initial assessment results out there for everyone to see, and the IPEP recommended we not get caught up in endless little fixes. I think that's important. There are two things we want to do. One is to incorporate the three-dimensional groundwater model. The second thing is to update inventory. We also plan to buy hardware that will allow us to run assessments more quickly.

During the second half of the year we will focus on defining requirements for future assessments. What are the regulators looking for? What is the U.S. Department of Energy (DOE) looking for? That will be in parallel with running the alternative assessments.

QUESTION: Can SAC help the C3T effort workshop and what they are trying to do?

ANSWER: I don't know enough about what they are doing. When the SAC is up and running, we'll get some insights as to what's important and what the real risk drivers are.

COMMENT: It seems to me that would be the most productive way to go.

QUESTION: I recall Paul Eslinger pointed to seven items. Were they dominant as far as contributions to risks?

ANSWER: He looked at the greatest contributors to uncertainty, not to risk. The greatest risk drivers for human health outside the central plateau was shown. First we showed the total dose and then plotted the radionuclide contributors. It was dominated by uranium and technetium and iodine 128 in the long term. Plutonium and cesium didn't become contributors in any of the runs.

COMMENT: So, uranium mobility is a risk driver.

He completed 11 computer runs and to say we understand uncertainty after 11 runs is premature. More important is the work on the 300 Area samples and the work that Mountain States Engineering (MSE) is going to be doing in the 200 Area. We've got column tests coming up in the next field investigation report.

QUESTION: You discounted plutonium. Is there a settled agreement?

ANSWER: We are proceeding on those spots. I don't think any tools can be taken by themselves. We need to look at SAC, Systems and Technology (S&T) and other elements and put it all together. You've got to look at multiple lines of evidence to make decisions - lab work, drilling, S&T and so forth.

QUESTION: So, do you feel like you're filling voids of information or are you refining information of things you think you know already?

ANSWER: I think in some people's minds, there isn't any credibility in SAC. And there won't be until we are able to complete some of the history matching that demonstrates what we know to be true. When we sat down with EPA, Dennis Faulk liked that it was a visualization of many things they'd talked about for a long time. The carbon tetrachloride shows the plume moving across the whole site and that under certain conditions it may not move at all. Being able to see it visually on the screen helps understanding. Visualizing that this plume is going to be here a long time helps bring it into people's consciousness.

QUESTION: Do past practice discharge sites drive the impacts for the next several years?

ANSWER: We believe so. One of the things we have proposed to the Office of River Protection (ORP) is to perform a separate model run for each waste type. That way you could separate the contribution of each at the central Plateau boundary. It would be interesting to do the same work even if we don't perform it for the tanks. We need to move towards that approach because it will help to understand the benefit associated with each additional increment of cleanup.

QUESTION: What was the assumption regarding what drives contaminants into the groundwater?

ANSWER: It's past, man-made discharges. We've stopped those. From this point forward, it's precipitation. It was based on all the work that's been done for Immobilized Low-Activity Waste (ILAW) and to look at what actually does recharge. The model included assumptions that covers go on at a certain time, at some point begin to degrade and, then, the sites go back to natural recharge conditions.

QUESTION: What about economic impacts? What parameters in the analysis keep people from using the river resources?

ANSWER: Concentration of strontium in the river, because of our misrepresentation of strontium in the 300 Area.

QUESTION: What analysis is that? Is that a propaganda machine?

ANSWER: I don't know the details of what is built into the model but triggers have been identified that would result in an economic impact. They have done a lot of interviewing to build a data set of what those triggers might be. We wanted to put together an economic model that would be relevant to the Hanford region so it looks at the economic impact of changes in recreational use of the Columbia River, cost of water supply and other things.

COMMENT: Back when the Chernobyl accident happened and people from Japan and China heard that radioactivity from the accident had been detected in the mid-Columbia region, they insisted that every shipment of wheat from the region be certified to be free of radioactivity. Even now the Washington State Department of Health has to certify that every shipment meets standards.

Public Involvement Update (Edye Jenkins)
We are working to engage the stakeholders more regularly. We met with the tribal nations on how to best meet with Yakamas and other tribes. We identified a strategy to meet with the technical advisors and then with the tribal council.

We are on the agenda for the Oregon Hanford Waste Board meeting. And we are having the Central Plateau workshops.

Regarding a comment made at the last meeting about getting the good news out, we had a couple of interviews. One was with the Tri-City Herald and one was with Inside Energy.

There is new literature out, the new Groundwater/Vadose Zone brochure.

QUESTION: (Sue Safford) Would you send me a copy of new materials?

ANSWER: Yes, we can do that. Do you want copies for the waste board?

QUESTION: Sure.

Vadose Zone Transport Field Study Update (Mark Freshley)
We received a shipment of copies of the pre-publication version of the Nation Academy of Sciences report. If anyone wants a copy, please send an email to the Integration project or me and a copy will be sent to you.

We have one milestone this year, which is to complete the field studies. We managed to finish the field work and analysis. But, we're running about a month behind on the report. The draft is in review internally. I just wanted to give you a summary update. In the 2001 test, a saline solution was injected rather than a dilute solution. Many of the same effects of lateral movement in the fine-grained sediments were observed. The saline plume traveled about 2.5 times deeper. They are working to analyze the results of the field tests, doing simulations with the STOMP code, working the code inverse calibration technique, linked that with the STOMP code and are evaluating the tests and looking at scaling approaches between the lab and field scale to improve our predictive capabilities. The report will be out at the end of October. The document is a total of about 70 pages.

QUESTION: What happens with that saline solution?

ANSWER: Remember the layout that we had, which was a group of wells surrounding a central injection point. In 2000, we performed the injection of dilute fluids. In 2001, we added a sodium thiosulfate solution. The intent was to run the test again and collect the same data.

QUESTION: I'm trying to relate this to the cesium mobility question. Does this enhance the mobility of contaminants?

ANSWER: I suggest you read the field investigation report as it addresses that question directly.

This test gives more information on mobile contaminants. Cesium and other reactive contaminants are a geochemistry question. These issues were addressed by the Field Investigations at Representative Sites tasks, and is summarized in the S&T appendix to the S-SX Field Investigation Report.

QUESTION: Distribution coefficients for cesium had three values depending on local chemical and thermal environment?

ANSWER: The model for cesium retardation was addressed by the Representative Sites task and is documented in the S&T appendix in the S-SX Field Investigation Report.

Upcoming Events (Michael Graham)
Looking at the calendar, there is a meeting of the Oregon Hanford Waste Board on October 23-24. There should be a full Hanford Advisory Board (HAB) meeting in November. October 23-24 the focus areas are coming out to go through Hanford's Needs Statements. The Environmental Management Science Program (EMSP) Workshop is November 5-6. You can check with Nancy Myers on any HAB committee meetings. The Technical Information Exchange is meeting November 13 –15. Mark Freshley has a couple of papers for that and Glendon Gee has one.

NOTES:
GW/VZ Web Site location: http://www.bhi-erc.com/vadose

If you have questions or comments, please contact Karen Strickland (509-372-9236) or Alison Bryan (509-372-9192).

ATTACHMENTS:
1) GW/VZ Integration Project Six Month Look Ahead Calendar

ATTENDEES:

Martin Bensky – Tri-City Caucus
Alison Bryan – BHI
Bob Bryce – PNNL
Mark Freshley – PNNL
Dib Goswami – Ecology
Michael Graham – BHI
Jim Hanson – DOE-RL
Mary Harmon – DOE-HQ (by phone)
R. Douglas Hildebrand – DOE-RL
Kathy Huss – SAIC (by phone)
Moses Jarayssi – BHI
Edye Jenkins – ERC
Tony Knepp – CHG
Doug Maddox – DOE-HQ (by phone)
Fred Mann – CHG
Rick McCain – MACTEC, Inc.
Gordon Rogers – HAB
Sue Safford – Oregon Office of Energy (by phone)
Mike Thompson – DOE-RL

GW/VZ INTEGRATION PROJECT

SEPTEMBER 10, 2001 – DECEMBER 12, 2001

FOUR MONTH LOOK AHEAD CALENDAR

September 10	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Edye Jenkins)
September 26-28	IPEP Meeting (BHI Assembly Room, Richland, WA)
October 1	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Edye Jenkins)
October 10	HAB River/Plateau Meeting
October 24	Oregon Hanford Waste Board visit
November 5	GW/VZ Project Open Meeting BHI Assembly Room – 1-3 p.m. (Contact: Edye Jenkins)
November 5-6	GW/VZ EMSP Workshop (William R. Wiley Environmental Molecular Sciences Laboratory, Richland, WA)
November 6	HAB Meeting
November 13-15	Technical Information Exchange (TIE) Workshop (Albuquerque, NM)
December 12	HAB-PI